AMENDMENT AND RESPONSE UNDER 37 C.F..R §1.111

Application No. 10/653,027

Title: Tissue Connector Apparatus and Methods

IN THE CLAIMS:

Claims 1-8 (Canceled)

12. (Currently Amended) A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion.

further including a flexible member comprising a suture, said flexible member having a first end portion coupled to said first tissue piercing member and a second end portion coupled to said first end portion of said fastener.

further including a coupling, said first tissue piercing member and said first end portion of said surgical fastener being coupled to said coupling; and

The tissue connector assembly of claim 11 wherein said coupling comprises a tubular member having movable portions and said surgical fastener includes an enlarged portion adapted for receipt in said movable portions.

- 13. (Original) The tissue connector assembly of claim 12 wherein said enlarged portion is spherical.
- 14. (Original) The tissue connector assembly of claim 12 wherein said movable portions comprise a plurality of strands.
- 15. (Original) The tissue connector assembly of claim 14 wherein a plurality of said strands include a notch for receiving a portion of said enlarged portion.
- 16. (Original) The tissue connector assembly of claim 14 wherein said strands comprise wires.
- 17. (Original) The tissue connector assembly of claim 14 wherein said strands comprise cables.

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18. (Canceled)

19. (Currently Amended)

A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion.

further including a flexible member comprising a suture, said flexible member having a first end portion coupled to said first tissue piercing member and a second end portion coupled to said first end portion of said fastener.

further including a coupling, said first tissue piercing member and said first end portion of said surgical fastener being coupled to said coupling,

further including a second coupling, said surgical fastener second end portion and second piercing member being coupled to said second coupling; and

The tissue connector assembly of claim 18 wherein said surgical fastener includes an enlarged portion and said second coupling comprises a generally tubular member having movable portions adapted to receive at least a portion of said second portion.

- 20. (Original) The tissue connector assembly of claim 19 wherein said movable portions comprise a plurality of strands.
- 21. (Original) The tissue connector assembly of claim 19 wherein a plurality of said strands include a notch for receiving a portion of said enlarged portion.

22. (Currently Amended)

A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion, and

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further including a flexible member comprising a suture, said flexible member having a first end portion coupled to said first tissue piercing member and a second end portion coupled to said first end portion of said fastener

further including a coupling, said first tissue piercing member and said first end portion of said surgical fastener being coupled to said coupling

further including a second coupling, said surgical fastener second end portion and second piercing member being coupled to said second coupling; and

The tissue connector assembly of claim 18 wherein said second coupling releases the coupling between said second piercing member and said surgical fastener in response to releasing said fastener first end portion coupling.

23. (Currently Amended)

A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion, and

further including a flexible member comprising a suture, said flexible member having a first end portion coupled to said first tissue piercing member and a second end portion coupled to said first end portion of said fastener

further including a coupling, said first tissue piercing member and said first end portion of said surgical fastener being coupled to said coupling.

further including a second coupling, said surgical fastener second end portion and second piercing member being coupled to said second coupling; and

The tissue connector assembly of claim 18 further including a coil surrounding said surgical fastener and wherein said fastener includes first and second enlarged portions and said fastener first end portion coupling and said second coupling are adapted for receipt of said fastener first and second enlarged portions, respectively, said second coupling including members having portions that have a radially outward bias and extend within said coil when said coil is compressed against said second coupling.

24. (Previously Presented) A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion.

further including a coupling, said first tissue piercing member and said first end portion of said surgical fastener being coupled to said coupling.

including a second coupling, said surgical fastener second end portion and second piercing member being coupled to said second coupling,

further including a flexible member and a coil, said flexible member having a portion coupled to said second tissue piercing member and a portion coupled to said second coupling, said coil surrounding said surgical fastener and being compressed against said second coupling, said fastener including an enlarged portion and said fastener first end portion coupling being adapted for receipt of said enlarged portion, said second coupling including a first member fixedly secured to said fastener and a second member slidably coupled to said fastener, and said flexible member being compressed between said second coupling members when said coil is compressed against said slidably coupled member.

25. (Currently Amended)

A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion;

further including a flexible member comprising a suture, said flexible member having a first end portion coupled to said first tissue piercing member and a second end portion coupled to said first end portion of said fastener;

further including a coupling, said first tissue piercing member and said first end portion of said surgical fastener being coupled to said coupling;

including a second coupling, said surgical fastener second end portion and second piercing member being coupled to said second coupling; and

The tissue connector assembly of claim 18-wherein said fastener includes a groove and projection and said second coupling includes a member having a groove and projection and a sleeve slidably mounted thereon, said fastener groove and projection being configured to mate with said coupling member groove and projection.

26. (Previously presented) A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion,

further including a coupling, said first tissue piercing member and said first end portion of said surgical fastener being coupled to said coupling,

further including a second coupling, said surgical fastener second end portion and second piercing member being coupled to said second coupling,

further including a flexible member having a portion coupled to said second tissue piercing member and a knotted portion, said second coupling including a tubular member having a bore, said knotted portion being in said bore and said bore having a portion with a diameter less than that of a section of said knotted portion.

27. (Currently Amended)

A tissue connector assembly comprising a surgical fastener, which is adapted to assume a loop configuration, a first tissue piercing member and a second tissue piercing member, said surgical fastener having a first end portion and a second end portion, said first tissue piercing member being coupled to said first end portion and said second tissue piercing member being coupled to said second end portion, and

further including a flexible member comprising a suture, said flexible member having a first end portion coupled to said first tissue piercing member and a second end portion coupled to said first end portion of said fastener

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further including a coupling, said first tissue piercing member and said first end portion

of said surgical fastener being coupled to said coupling

including a second coupling, said surgical fastener second end portion and second

piercing member being coupled to said second coupling; and

The tissue connector assembly of claim 18 wherein said second coupling comprises an

annular blade coupled to said second piercing member, said annular blade surrounding and being

secured to a portion of said surgical fastener.

28-29 (Canceled)

30. (Currently Amended)

A tissue connector assembly comprising a surgical fastener, which is adapted to assume a

loop configuration, a first tissue piercing member and a second tissue piercing member, said

surgical fastener having a first end portion and a second end portion, said first tissue piercing

member being coupled to said first end portion and said second tissue piercing member being

coupled to said second end portion, and

 $\underline{\text{further including a flexible member comprising a suture, said flexible member having a}}$

first end portion coupled to said first tissue piercing member and a second end portion coupled to

said first end portion of said fastener;

wherein said surgical fastener comprises a surgical clip; and

wherein said surgical clip comprises a wire,

The tissue connector assembly of claim 29 further including a coil surrounding at least a

portion of said wire and having confined ends.

Claims 31-82 (Cancelled).

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